

Name: \_\_\_\_\_

### Ink Analysis Lab

There are three known pens available. These samples will be compared with the unknowns.

Procedure:

1. Measure 0.5 cm from the top and bottom of the chromatography paper. Lightly draw a line across the paper at these points IN PENCIL.
2. Determine where you will place your seven samples by marking, under your pencil line, where the ink samples will go.
3. For the three known samples, the principal's pen, and the two suspects pens, place a small amount of ink above your labeled paper. Firmly press down on the paper with the pen. You want to make a small dot.
4. For the crime scene sample, you will need to extract the ink from the check. To do this, cut a small square from the check that includes the pen mark. Add the alcohol/water solution to this sample. This will dissolve the ink. Using a micropipette, place a drop of this extracted liquid to the chromatography paper where you marked "Crime Scene."
5. Staple the ends of the chromatography paper together with the ink marks on the outside. DO NOT overlap the paper! Place this inside the plastic cup. DO NOT let the chromatography paper touch the side of the cup.
6. Add 2:1 propanol/water to the Petri dish. Place the chromatography paper and plastic cup in the solution.
7. It will take 20-25 minutes for the mobile phase to end. You want to remove your chromatography paper from the Petri dish when the liquid is at the upper pencil line.
8. Remove chromatography paper from solution. Using a pencil, circle the points where the ink has traveled and separated. Dispose of solution as instructed. Hang your chromatography paper up to dry.

### Lab Questions

1. What does "polar" mean? Give an example of a polar substance. (2 pts.)
2. What does "non-polar" mean? Give an example of a non-polar substance. (2 pts.)
3. What does the phrase "like dissolves like" mean? (2 pts.)
4. Why is thin layer chromatography an important lab tool? (2 pts.)
5. List two components of ink. (2 pts.)